

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A development method in which, while stirring a developer which is a mixture of a magnetic carrier and a toner and supplying the toner of the developer, a toner density TD (%) of the developer is measured, and the toner is supplied to the developer, depending on a reduction in the measured toner density TD (%), wherein the toner is supplied to the developer so that the measured toner density TD (%) falls within a range specified by:

$$TD \leq \{yt \cdot Vt / Nt\} \times 100 \quad (1)$$

$$Vt = (\pi/6) \cdot (Dtav_pop)^3$$

$$Sc = \pi \cdot (Dcav_pop + Dtav_pop)^2$$

$$Nt = Sc / [(3^{0.5}/2) \cdot (Dtav_pop)^2] / 2$$

$$Vc = (\pi/6) \cdot (Dcav_pop)^3$$

where a number average diameter of the magnetic carrier is represented by Dcav_pop (μm), a number average diameter of the toner is represented by Dtav_pop (μm), a specific gravity of the magnetic carrier is represented by γ_c , and a specific gravity of the toner is represented by γ_t .

2. (Original) A development method in which, while stirring a developer which is a mixture of a magnetic carrier and a toner and supplying the toner of the developer, a toner density TD (%) of the developer is measured, and the toner is supplied to the developer, depending on a reduction in the measured toner density TD (%), wherein

the toner is supplied to the developer so that the measured toner density TD (%) falls within a range specified by:

$$TD \leq \{\gamma_t \cdot V_t / N_t / (\gamma_c \cdot V_c)\} \times 100 \quad (2)$$

$$V_t = (1/6) \cdot (D_{av_vol})^3$$

$$S_c = \bullet (D_{av_vol} + D_{av_vol})^2$$

$$N_t = S_c / [(3^{0.5}/2) \cdot (D_{av_vol})^2] / 2$$

$$V_c = (1/6) \cdot (D_{av_vol})^3$$

where a volume average diameter of the magnetic carrier is represented by D_{av_vol} (μm), a volume average diameter of the toner is represented by D_{av_vol} (μm), a specific gravity of the magnetic carrier is represented by γ_c , and a specific gravity of the toner is represented by γ_t .

3. (Original) A development method in which, while stirring a developer which is a mixture of a magnetic carrier and a toner and supplying the toner of the developer, a toner density TD (%) of the developer is measured, and the toner is supplied to the developer, depending on a reduction in the measured toner density TD (%), wherein

the toner is supplied to the developer so that the measured toner density TD (%) falls within a range specified by:

$$TD \leq [5.1(D_{av_vol})^{-1.17}] \times 100 \quad (3)$$

where a volume average diameter of the magnetic carrier is represented by D_{av_vol} (μm), and a volume average diameter of the toner is 5.5 (μm).

4. (Original) A development method in which, while stirring a developer which is a mixture of a magnetic carrier and a toner and supplying the toner of the developer, a toner density TD (%) of the developer is measured, and the toner is supplied to the developer, depending on a reduction in the measured toner density TD (%), wherein the toner is supplied to the developer so that the measured toner density TD (%) falls within a range specified by:

$$TD/(Dtav_vol)^{1.2} \leq [5.1(Dcav_vol)^{-1.17}/5.5^{1.2}] \times 100 \quad (4)$$

where a volume average diameter of the magnetic carrier is represented by Dcav_vol (μm), and a volume average diameter of the toner is represented by Dtav_vol (μm).

5. (Currently Amended) The development method according claim 1, wherein the toner is a toner produced by a pulverizing method.

6. (Currently Amended) The development method according to claim 1, wherein the toner has a diameter distribution with a standard deviation σ of 15 (%) or more.

7. (Currently Amended) The development method according to claim 1, wherein the toner has a pigment concentration of 5 (%) or more.

8. (Original) A development apparatus in which a developer which is a mixture of a magnetic carrier and a toner is stirred and the toner of the developer is supplied, comprising detecting means for measuring a toner density TD (%) of the developer and

supplying means for supplying the toner to the developer, depending on a reduction in the measured toner density TD (%), wherein

the supplying means supplies the toner to the developer so that the measured toner density TD (%) falls within a range specified by:

$$TD \leq \{\gamma t \cdot Vt / Nt / (\gamma c \cdot Vc)\} \times 100 \quad (1)$$

$$Vt = (\pi/6) \cdot (D_{av_pop})^3$$

$$Sc = (\bar{D}_{av_pop} + D_{av_pop})^2$$

$$Nt = Sc / [(3^{0.5}/2) \cdot (D_{av_pop})^2] / 2$$

$$Vc = (\pi/6) \cdot (\bar{D}_{av_pop})^3$$

where a number average diameter of the magnetic carrier is represented by D_{av_pop} (μm), a number average diameter of the toner is represented by D_{av_pop} (μm), a specific gravity of the magnetic carrier is represented by γc , and a specific gravity of the toner is represented by γt .

9. (Original) A development apparatus in which a developer which is a mixture of a magnetic carrier and a toner is stirred and the toner of the developer is supplied, comprising detecting means for measuring a toner density TD (%) of the developer and supplying means for supplying the toner to the developer, depending on a reduction in the measured toner density TD (%), wherein

the supplying means supplies the toner to the developer so that the measured toner density TD (%) falls within a range specified by:

$$TD \leq \{\gamma t \cdot Vt / Nt / (\gamma c \cdot Vc)\} \times 100 \quad (2)$$

$$Vt = (\pi/6) \cdot (D_{av_vol})^3$$

ONDA ET AL.
Appl. No. Unknown
April 27, 2006

$$Sc = \bullet(Dcav_vol + Dtav_vol)^2$$

$$Nt = Sc / [(3^{0.5}/2) \bullet (Dtav_vol)^2] / 2$$

$$Vc = (\pi/6) \bullet (Dcav_vol)^3$$

where a volume average diameter of the magnetic carrier is represented by $Dcav_vol$ (μm), a volume average diameter of the toner is represented by $Dtav_vol$ (μm), a specific gravity of the magnetic carrier is represented by γ_c , and a specific gravity of the toner is represented by γ_t .